



ARL is an Authority on Nutrition and the Science of Balancing Body Chemistry Through Hair Tissue Mineral Analysis!

Hair Tissue Mineral Analysis

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Leg Cramps, Muscle Cramps and Restless Legs

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Leg Cramps, Muscle Cramps and Restless Legs

Cramping and restless legs, as well as related conditions such as muscle tightness and even spinal misalignment may occur due to several nutritional imbalances. This is a common condition and at times can become chronic and severe enough to cause significant impairment and disability.

Calcium and Magnesium

The most common imbalance seen with these conditions is either a calcium and/or magnesium deficiency. This may be due to simply a deficiency state or the condition we call biounavailable calcium and magnesium.

An acute deficiency state is less common and could be due to a diet high in sugar and foods such as soda pop that contain phosphoric acid. This acid binds calcium and magnesium and reduces their absorption from the intestines.

More common is a chronic low tissue level of calcium and magnesium. This is due in most cases to biounavailable calcium and magnesium which occurs in slow oxidizers. It is discussed in the section below.

Slow Oxidation

In this situation, adrenal and thyroid glandular activity are diminished due to continued or extreme stress from a poor diet, fatigue or other causes, resulting in nutritional depletion and/or damage to the glands. This is most common today. Psychological or emotional stress can also play a leading role in some cases.

Reduced adrenal gland activity in particular reduces soft tissue sodium levels and at times blood sodium, causing calcium to precipitate out of the blood and deposit in the soft tissues such as the hair, joints, arteries and others. This results in an elevated hair tissue calcium reading. An elevated hair calcium level does not mean that a person has too much calcium or magnesium in the body as a whole. It means that calcium is precipitating into the soft tissues because it is biologically unavailable, often due to low sodium and potassium levels. Sodium is needed in particular to keep calcium in a soluble, or ionic state.

Although a hair mineral analysis indicates elevated calcium and magnesium levels in a slow oxidizer, the person may experience leg cramps and restless legs because in fact the calcium and in some cases magnesium are not biologically available. Supplemental calcium and magnesium are often helpful until such time as the body's own mechanisms for availability can be corrected by improving the sodium level. This requires improving adrenal glandular activity, and in most cases removing excess copper and other metals that have become excessive or toxic.

Fast Oxidation

In some cases, deficiency occurs due to protracted sympathetic nervous system activity, at times called the fight-or-flight response. The body excretes calcium and magnesium to place the body in a heightened state of alertness during the fight-or-flight response. If this state occurs for only a short time, the minerals are replaced from the diet and the calcium and magnesium levels resume normal levels.

However, if a fight-or-flight response occurs for a prolonged period, even for a few weeks, and often it is for much longer during childhood or a stressful adult trauma, then the body is unable to replenish its calcium and magnesium reserves. This chronic stress situation results in what we call a state of *fast oxidation*. It is characterized by chronically low levels of calcium and magnesium, along with deficiencies of zinc and copper. At this point, extra supplements of calcium and magnesium are needed to help replenish depleted levels of these minerals.

Also, extra copper, zinc and at times other nutrients such as choline, inositol, and vitamins A and D in particular, are needed to reverse this condition. Note that other nutritional authorities may define fast oxidation differently.

A complication that occurs with fast oxidation and calcium deficiency in particular is that toxic metals may be absorbed that replace calcium in ion and enzyme binding sites throughout the body. These toxic metals include lead, cadmium, arsenic and aluminum. Others include less biologically available forms of iron, manganese, copper or other physiological minerals that can be converted to forms that are not readily usable by the body.

Potassium

At times leg cramps or restless legs can be due to a need for potassium. This may occur in both slow and fast oxidizers. Slow oxidizers may lose potassium in the urine, along with losing sodium due to low aldosterone levels. Other kidney imbalances involving rennin regulation can also cause this type of imbalance. The hair potassium level may be very low although the person ingests supplements with potassium.

Fast oxidizers may lose potassium due to tissue breakdown or catabolism. In cases of fast oxidation, the hair tissue potassium may be very elevated.

A potassium supplement may correct potassium deficiency. However, to correct the causes of potassium imbalances often requires an improved diet of natural foods and a nutritional balancing program to restore biochemical balance.

Magnesium Deficiency and Exercise

Muscle cramps that occur only during or immediately after exercising may be due to a short-term magnesium deficiency. Magnesium is deficient in most diets. It is found in whole grains, nuts, some meats and vegetables. Most people do not eat enough of these foods on a daily basis to supply optimum magnesium intake.

Exercise is a powerful sympathetic nervous system stimulant that can deplete magnesium stores at a time when magnesium is vitally needed for muscle function, especially muscle relaxation. Hence, cramping occurs during or soon after exercise when magnesium is low in the tissues. Supplementing the diet with magnesium or preferably improving the diet usually solves this type of muscle cramping problem.

Circulation, Cramps and Restless legs

Impaired circulation is another possible cause for muscle tightness, muscle cramps and restless legs. One common cause is a diabetic condition that causes arterial obstruction. Other causes include pregnancy if the fetus lays on the arteries or veins leading to the legs. Another cause is a sedentary lifestyle or even sitting or lying too long in one position. If circulation is poor, it can occur at night when circulation slows even further due to the resting state. Rarely, excessive sympathetic muscle tone can cause arterial constriction.

Diabetes or arteriosclerosis due to other causes usually require a long-term lifestyle and nutritional balancing program for correction. Vitamin E and, in drug medical practices, quinine, are symptomatic remedies that will be helpful in selected cases. Lifestyle changes will help some other cases of cramps due to circulatory problems. Restoring general health through dietary and supplemental nutrition may be most helpful as well.

Less Understood Causes

Food sensitivity can cause many symptoms, among them are cramps and even restless legs. One should consider noting whether cramps or restless legs occur after consuming a particular food or food additive. Food allergy testing may be helpful in some cases.

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